

Notice of Allowability

Application No.

09/869,170

Applicant(s)

MATSUMURA ET AL.

Examiner

Michael J. Simitoski

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment of 11/27/2006.
2. ☒ The allowed claim(s) is/are 1-3, 5-8, 10-13 and 15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


KAMBIZ ZAND
PRIMARY EXAMINER

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 12/13/2006, 1/12/2007.

DETAILED ACTION

1. Claims 1-3, 5-8, 10-13 & 15 are allowed.
2. An Examiner's amendment begins on p. 3 of this action.
3. The Examiner's reasons for allowance begin on p. 4 of this action.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Bruno Polito (908-654-5000) on 3/7/2007 & 3/15/2007.

The application has been amended as follows:

IN CLAIM 1, REPLACE LINES 16-20 WITH THE FOLLOWING:

“signal is sampled during compression processing such that regions containing first digital watermarking information are sampled during compression processing and regions containing said second digital watermarking information are not sampled during compression processing, and being characterized in that, upon further compression of said marked”

IN CLAIM 6, REPLACE LINES 15-19 WITH THE FOLLOWING:

“sampled during compression processing such that regions containing first digital watermarking information are sampled during compression processing and regions containing said second digital watermarking information are not sampled during compression processing, and being characterized in that, upon further compression of said marked signal”

IN CLAIM 11, REPLACE LINES 15-19 WITH THE FOLLOWING:

“sampled during compression processing such that regions containing first digital watermarking information are sampled during compression processing and regions containing said second digital watermarking information are not sampled during compression processing, and being characterized in that, upon further compression of said marked signal to”

Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 6 & 11, **Swanson** discloses performing psychological auditory sense analysis/spectral shaping (p. 3, ¶1 & p. 10, §4) based on a predetermined compression characteristic (i.e. mpeg encoding) of said audio signal (p. 3, ¶1 & p. 6, ¶2) and outputting the result of the analysis as psychological auditory sense encoded information (p. 10, #1-3) and superimposing on said audio signal first digital watermarking information/watermarking on said input signal (p. 10, #7) on the basis of said psychological auditory sense encoded information/power spectrum, frequency masking (p. 10, #1-7 & p. 3, ¶1), characterized in that, upon compression of said marked signal to create a compressed signal (p. 15, §6.4), said first digital watermarking information/robust watermark can be completely or substantially recovered from said compressed signal (p. 15, §6.4), wherein said psychological auditory sense encoded information is indicative of the respective frequency bands of said audio signal on which said first watermarking information is to be superimposed (temporal masking properties of the audio) (p. 2, last ¶) and the respective levels to which the first digital watermarking information should be set prior to superimposition (amplitude increases or decreases with the audio) (p. 3, ¶1). **Swanson** discloses multiple watermarks (p. 15, §6.5). **Cookson** teaches that it is beneficial to include in an audio signal two watermarks, one robust and one weak (col. 2, line 62 – col. 3, line 15) to detect if the watermark has been compressed and if the watermark is protected (col. 2, line 62 – col. 3, line 15), whereby when the marked audio signal is reproduced the survival state of said first and second digital watermarking information is operable as copy control information (col. 2, line 62 – col. 3, line 33). **Quackenbush** teaches that integrating watermarking with

compression provides resistance to collusion attacks (col. 3, lines 10-15) by dividing the signal into scale factor bands (producing discrete amplitude ranges in each band) and creating watermarking information (multipliers) based on these bands (col. 6, lines 27-45).

U.S. Patent Application Publication 2004/0059918 to Xu discloses embedding a watermark in an uncompressed data (ABSTRACT).

U.S. Patent 6,952,774 to Kirovski et al. teaches a device embedding multiple watermarks, one fragile, one robust, into an audio signal integrated with a compression device, the watermarks based on psychological auditory sense analysis (see ABSTRACT, Figs. 2-3, Fig. 9, col. 4, lines 28-64, cols. 5-7 & col. 12, lines 53-64).

However, all of the prior art of record fails to teach or disclose, either alone or in combination, embedding a first watermark recoverable from further compression and a second watermark not recoverable from further compression, such that regions containing the first watermark are sampled during compression processing and regions containing the second watermark are not sampled during compression processing, in combination with the other elements of the claims.

Claims 2-3, 5, 7-8, 10, 12-13 & 15 are allowable for the reasons specified above with respect to their independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (571) 272-3841. The examiner can normally be reached on Monday - Thursday, 6:45 a.m. - 4:15 p.m..

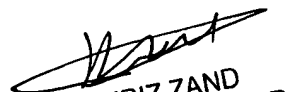
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJS



March 15, 2007



KAMBIZ ZAND
PRIMARY EXAMINER